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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/587,502

07/27/2006

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25944 7590 02/19/2009

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EXAMINER

WILLIAMS, JEFFERY L

ART UNIT

PAPER NUMBER

2437

MAIL DATE

DELIVERY MODE

02/19/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/587,502	<b>Applicant(s)</b> TSUKAGOSHI ET AL.	
	<b>Examiner</b> JEFFERY WILLIAMS	<b>Art Unit</b> 2437	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>72706</u> .                                                   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

Claims 1 – 20 are pending.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 16 – 20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Regarding claims 16 – 20, they recite essentially a medium comprising a hologram. The examiner notes that claims of a medium comprising non-functional descriptive material, without the positive recitation of that which would impart functionality to a computer (e.g. software), fail to fall within a statutory category of invention.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 2, 5 – 10, 13 – 17, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Horimai, U.S. Patent Publication, 2002/0114027 A1.**

Regarding claim 6, Horimai discloses:

*an optical information recording medium having a holographic recording portion in which a hologram is formed, the hologram being formed by interference fringes when a reference beam subjected to spatial light modulation by record cryptographic identification information based on biometric information of a user and an object beam subjected to spatial light modulation in accordance with information to be recorded are projected (Horimai, par. 2, 5, 127, 239, and par. 326 – “record cryptographic identification information based on biometric information of a user”);*

*a biological information sensor that can directly obtain the biometric information from the user (Horimai, par 327; fig. 74:501);*

*an information processing device for using the biometric information obtained by the biological information sensor as validation cryptographic identification information (Horimai, par. 327; fig. 74:502);*

*a reproduction optical system for projecting a reproduction reference beam similar to the reference beam at the time of recording to the holographic recording portion in order to reproduce the recorded information by generated diffracted light (Horimai, par. 170, 326);*

*a spatial light modulator for modulating the reproduction reference beam by the validation cryptographic identification information (Horimai, par. 170, 326, 330);*

*a calculation device for verifying an identity of the user on the basis of the information reproduced by the reproduction optical system and outputting a signal allowing or refusing the user by a validation result* (Horimai, fig. 3:85,89; par. 133, 137; see also par. 325, 170, 330). Horimai discloses a holographic system utilizing biometric information of a user to control access to a service. If input biometric information matches reference biometric information, a validation result is reached, effectively identifying an individual user, and a signal for a complete reproduction or access is output.

Regarding claim 7, Horimai discloses:

*a hardware for allowing or refusing the user in response to the allowing or refusing signal from the calculation device* (Horimai, fig. 3; par. 170, 330 – herein Horimai discloses hardware for presenting a reproduction to the user in response the outputted reproduction signal allowing or refusing the user).

Regarding claims 8 and 9, Horimai discloses:

*a client server is provided with the biological information sensor, the information processing device, the reproduction optical system, and the spatial light modulator* (Horimai, fig. 74; par. 327);

*a host server is provided with the calculation device* (Horimai, fig. 2);

*the client server and the host server are connected by a circuit* (Horimai, fig. 75);

*the client server outputs the reproduced personal identification information*  
(Horimai, fig. 74:501,502);  
*and the host server outputs the allowing or refusing signal* (Horimai, fig. 3; par. 133, 165, 170).

Regarding claim 10, Horimai discloses:  
*wherein the record cryptographic information and the validation cryptographic information are modulation patterns of the biometric information by imaging the biometric information by a predetermined encoding scheme* (Horimai, par. 327; fig. 74:502).

Regarding claims 13 and 14, Horimai discloses:  
*wherein the hologram is interference fringes between the object beam and the reference beam subjected to the phase spatial light modulation* (Horimai, par. 239, 327).

Regarding claims 1, 2, 5, 16, 17, and 20, they are method and apparatus claims essentially corresponding to the above rejected claims, and they are rejected, at least, for the same reasons.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 4, 11, 12, 15, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horimai in view of Ljungblad et al. (Ljungblad), "New Laser Pattern Generator for DUV Using a Spatial Light Modulator".

Regarding claim 18, Horimai discloses the encoding of the biometric information by an encoding scheme (Horimai, par. 327). However, Horimai does not appear to explicitly disclose the specific encoding scheme, such as *dividing original images displaying the biometric information into a plurality of pixel blocks composed of a plurality of and the same number of pixels, detecting the number of ON pixels or OFF pixels in each pixel block, and converting the pixels of every pixel block into conversion pixel patterns predetermined on the number of ON pixels or OFF pixels basis in accordance with the detected number.*

Ljungblad discloses *dividing original images displaying the biometric information into a plurality of pixel blocks composed of a plurality of and the same number of pixels* (Ljungblad, pg. 24, par. 3), *detecting the number of ON pixels or OFF pixels in each pixel block, and converting the pixels of every pixel block into conversion pixel patterns predetermined on the number of ON pixels or OFF pixels basis in accordance with the detected number* (Ljungblad, pg. 26, par. 1).

It would have been obvious to one of ordinary skill in the art to employ the modulation mask creation techniques of Ljungblad within the system of Horimai. This

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would have been obvious because one of ordinary skill in the art would have been motivated by the prior art's disclosure of increase speed and productivity (Ljungblad, Abstract; pg. 23, par. 1).

Regarding claim 19, the combination enables:

wherein the pixel block is composed of an even number equal to or more than six of pixels, and the conversion pixel pattern has the same number of ON pixels and OFF pixels (Ljungblad, pg. 24, par. 3; pg. 26, par. 1).

Regarding claims 3, 4, 18, 19, 11, and 12, they comprise essentially similar recitations as claims 18 and 19, and they are rejected, at least, for the same reasons as claims 18 and 19.

Regarding claim 15, it comprises essentially similar recitations as claim 5, and it is rejected, at least, for the same reasons.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

***See Notice of References Cited.***



A shortened statutory period for reply is set to expire **3** months (not less than 90 days) from the mailing date of this communication.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery Williams whose telephone number is (571) 272-7965. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

J. Williams  
AU 2437

/Emmanuel L. Moise/  
Supervisory Patent Examiner, Art Unit 2437